UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/788,281	02/16/2001	Bryan D. Skene	08204/100S025-US2	5298

38878 7590 12/31/2007

F5 Networks, Inc.
c/o DARBY & DARBY P.C.
P.O. BOX 770
Church Street Station
NEW YORK, NY 10008-0770

EXAMINER	
SHINGLES, KRISTIE D	
ART UNIT	**PAPER NUMBER**
2141	

MAIL DATE	DELIVERY MODE
12/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/788,281	SKENE ET AL.	
	Examiner	Art Unit	
	Kristie D. Shingles	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-5,8,9,17-26,29,33-41 and 45-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-5,8,9,17-26,29,33-41 and 45-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Claims 1, 6-7, 10-16, 27, 28, 30-32 and 42-44 have been cancelled.
Claims 2, 8, 22, 38-41 and 45-50 have been amended.

Claims 2-5, 8-9, 17-26, 29, 33-41 and 45-50 are pending examination.

Response to Arguments

I. Applicant's arguments with respect to claims 2, 22, 38, 49 and 50 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

II. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

III. **Claims 2-5, 17, 18, 22-24, 29, 33, 34, 38-41, 45 and 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lim* (USPN 6,360,256) in view of *McCanne* (USPN 6,785,704).**

a. **Per claim 2**, *Lim* teaches a method of delivering content across a plurality of zones within a network, comprising:

- receiving a request from a client located within one of the plurality of zones for access to resources associated with a domain name (*Figure 1, col.3 line 52-col.4 line 47 and col. 7 line 40-col.8 line 5; client communicates with server within a zone to access resources associated with a domain name*);

- determining network conditions for the network based on a determination of the load for each of the plurality of zones (*col.2 line 26-col.3 line 5, col.4 lines 48-67, col.5 lines 15-54 and col.7 line 17-col.8 line 5; determinations based on various methods of load measurement for each zone*);

- distributing the request to one of the plurality of zones based on the determined network conditions (*col.1 line 52-col.2 line 15, col.2 line 26-col.3 line 5, col.4 lines 39-67, col.7 lines 17-40 and col.8 lines 43-51; the client's request is distributed to an appropriate server in one of the zones able to handle the load determined by load measurements*);

- selecting one of the plurality of servers within the zone in which the request was distributed, the selection of the server being based on a determination for optimally balancing the load across the plurality of servers (*col.1 line 52-col.2 line 15, col.2 line 26-col.3 line 5, col.4 lines 39-67, col.7 lines 17-40 and col.8 lines 43-51; the client's request is distributed to an appropriate server in one of the zones able to handle the load determined by load measurements*);

- resolving an Internet protocol (IP) address of the selected server (*col.4 lines 38-67 and col.5 lines 21-66; provision for resolving of the domain name and associated host address*).

Yet *Lim* fails to explicitly teach determining whether to delegate delivery of the resources to a content delivery network based on the determination for optimally balancing the load across the plurality of servers and a pool load-balancing setting. However, *McCanne* teaches delegating and redirecting delivery of resources from a content delivery network based on server load and network measurements (*col.6 lines 22-50, col.10 line 57-col.11 line 8, col.13 lines 6-51*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Lim* and *McCanne* for the purpose of provisioning the delivery of resources to a content delivery network; because it allows for the content to be distributed and accessed by the selected servers in the content delivery network in order to balance the load across the networked servers.

b. **Claims 22, 49 and 50** contain limitations that are substantially similar to claim 2 and are therefore rejected under the same basis.

c. **Per claim 3,** *Lim* and *McCanne* teach the method of claim 2, *Lim* further teaches the method further comprising querying a local Domain Name System (DNS) to provide the IP address associated with the domain name (*col.4 lines 1-67; McCanne: col.19 line 30-col.20 line 49*).

d. **Per claim 4,** *Lim* teaches the method of claim 3 wherein when the IP address is not present at the local DNS, querying a primary DNS to resolve the IP address associated with the domain name (*col.4 lines 1-67; McCanne: col.19 line 30-col.20 line 49*).

e. **Per claim 5,** *Lim* teaches method of claim 4, wherein when the primary DNS determines the domain name is delegated to a EDNS, further comprises referring the local DNS to the EDNS to resolve the IP address for the selected server, the EDNS employs at least one of a plurality of load balancing determinations to select one of the plurality of servers and resolve the IP address for the selected server (*col.4 lines 1-67 and col.7 line 64-col.8 line 10; McCanne: col.13 lines 36-64, col.14 lines 46-54*).

f. **Per claim 17,** *Lim* and *McCanne* teach the method of claim 2, *McCanne* further teaches the method of claim 2 further comprising: deriving cost metrics for network paths in topological maps; using the cost metrics to determine a geographic location of the request: and distributing the request based on the geographic location (*col.9 line 61-col.10 line 8, col.10 lines 23-27, col.21 lines 52-62*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Lim* and *McCanne* by using the network's metrics to determine the most optimal path and the nearest server capable of fulfilling

a client's request in order to provide better service to the network users.

g. **Claims 18, 29, 33, 34, 38, 41 and 45** are substantially similar to claim 17 and are therefore rejected under the same basis.

h. **Per claim 23,** *Lim* and *McCanne* teach the system of claim 22, *Lim* further teaches wherein selecting one of the plurality of servers, further comprises choosing the server based on one of a plurality of static load balancing determinations for each server, the plurality of static load balancing determinations being selectable and including random, round robin, static ratio, global availability and topology (*col.2 line 45-61, col.4 lines 56-61, col.6 line 22-col.7 line 40 and col.7 line 55-col.8 line 5*).

i. **Claim 39** is substantially similar to claim 23 and is therefore rejected under the same basis.

j. **Per claim 24,** *Lim* and *McCanne* teach the system claim 22, *Lim* further teaches wherein selecting one of the plurality of servers, further comprises choosing the server based on one of a plurality of dynamic load balancing determinations for each server, the dynamic load balancing determinations being selectable and including completion rate, least connections, packet rate, hops, round trip times, new correction rate, kilobyte rate, quality of service and dynamic ratio (*col.2 line 26-61, col.4 lines 56-61, col.6 line 3-col.7 line 40 and col.7 line 55-col.8 line 5*).

k. **Claim 40** is substantially similar to claim 24 and is therefore rejected under the same basis.

IV. Claims 8, 9, 19-21, 25, 26, 35-37 and 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lim* (US 6,360,256) in view of *McCanne* (USPN 6,785,704) and further in view of *Jindal et al* (US 6,092178).

a. **Per claim 8**, *Lim* in view of *McCanne* teach the method of claim 2 as applied above, yet fail to explicitly teach the plurality of server further comprising: marking each of a plurality of pools to a not tried state; determining the pool load-balancing setting; selecting one of the plurality of pools that is marked to the initialization state; marking the selected one of the plurality of pools to a tried state; attempting to obtain an answer using the determined pool load-balancing on the selected one of the plurality of pools; and determining if the answer was obtained. However, *Jindal et al* disclose load balancing in a server farm wherein local and global policies may be exercised to select the preferred group of segregated servers for handling a task (*col.7 line 1-col.8 line 63, col.9 lines 41-57 and col.10 line 45-col.11 line 34*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Lim* and *Swildens et al* with *Jind al et al* for the purpose of performing load balancing across a pool of servers to determine which servers are functional for handling particular loads and thus selecting a pool of servers to perform the task. This capability extends load-balancing features to selective groups of servers/devices as opposed to just one server/device.

b. **Claims 19, 25, 35 and 46** are substantially similar to claim 8 and are therefore rejected under the same basis.

c. **Per claim 20,** *Lim* and *Swildens et al* teach the method of claim 2 as applied above, yet fails to explicitly teach the method further wherein a least a portion of the plurality of servers are virtual servers. However, *Jindal et al* disclose the inclusion virtual servers into the

load-balancing system (*col.3 lines 20-54 and col.5 lines 19-67*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Lim* and *Swildens et a* with *Jindal et al* for the purpose of implementing virtual servers into the load-balancing system to extend the functionality to include other types of servers; in this case load-balancing of virtual or Web servers would be obvious since they share computer resources with other servers and would require some form of regulation or load distribution.

d. **Claims 36 and 47** are substantially similar to claim 20 and are therefore rejected under the same basis.

e. **Per claim 21,** *Jindal et al* teaches the method of claim 20 wherein selecting one of the plurality of servers within the zone in which the request was distributed, the selection of the server being based on a determination for optimally balancing the load across the plurality of servers, further comprising: determining if the selected server is a virtual server, and if so: determining a number of nodes up on the virtual server; determining if the number of nodes up or the number of connections for the virtual server exceeds a predetermined number and if so returning a value indicating the capacity of the virtual server has been exceeded (*col.3 lines 19-58, col.5 line 19-col.6 line 67, col.7 lines 1-43 and col.8 line 30-col.9 line 57*).

f. **Claims 9, 26, 37 and 48** are substantially similar to claim 21 and are therefore rejected under the same basis.

Conclusion

V. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Ball et al (20020161835), Biliris et al (20020078233), Day (20030229682), Rochberger (6470022).

VI. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

VII. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie D. Shingles whose telephone number is 571-272-3888. The examiner can normally be reached on Monday 8:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristie D Shingles
Examiner
Art Unit 2141

kds

WILLIAM VAUGHN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100